

LISTING OF CLAIMS

1. (Currently Amended) A computer-implemented method for correcting ~~a structured an~~ XML electronic document, comprising:

identifying a validation error in the XML electronic document, the validation error being a structural aspect of the ~~structured~~ XML electronic document that fails to conform to rules of ~~a~~ markup language format an XML document type definition or an XML schema, the rules ~~including one or more rules deduced from the structure of the structured electronic document and~~ being associated with the ~~structured~~ XML electronic document, the validation error being of a particular kind;

selecting a suggestion template from among multiple suggestion templates according to the particular kind of the validation error, and using the selected suggestion template to suggest to a user suggested corrections that are predefined in the template for the particular kind of validation error, the selected suggesting one or more changes to a user which would correct the identified non-conforming structural aspect, the suggested one or more changes being presented to the user in a predetermined suggestion template corresponding to a specific validation error, the predetermined suggestion template including logic necessary to implement the one or more changes suggested corrections to the document to correct the identified non-conforming structural aspect;

receiving ~~user~~ an input selecting one of the suggested corrections a change of the suggested changes; and

using the logic in the selected suggestion template to apply the correction selected by the input applying the selected change to the XML structured electronic document.

2. (Currently Amended) The method of claim 1, wherein:

identifying a structural aspect of the ~~structured~~ XML electronic document includes identifying a missing, extraneous, misplaced, or mismatched structural aspect of the ~~structured~~ XML electronic document.

3. (Currently Amended) The method of claim 1, wherein:
the rules include one or more rules stored separately from and referred to in the ~~structured~~
XML electronic document.
4. (Currently Amended) The method of claim 1, wherein:
the rules include one or more rules stored in the ~~structured~~
XML electronic document.
- 5-7. (Cancelled)
8. (Currently Amended) The method of claim 6₁, wherein:
the rules include one or more rules defined in an XML DTD.
9. (Previously Presented) The method of claim 1, wherein:
suggesting changes to the user includes suggesting a plurality of changes to the user in an
order determined by predefined user preferences, the predefined user preferences including
ranking particular changes higher than other changes.
10. (Cancelled)
11. (Original) The method of claim 1, wherein suggesting one or more changes to a user
comprises:
requesting information from a user about the identified structural aspect; and
based on input received in response to the request, suggesting to the user one or more
changes that would correct the identified structural aspect.

12. (Currently Amended) The method of claim 1, wherein:

identifying a structural aspect of the structured XML electronic document that fails to conform to rules associated with the structured XML electronic document includes identifying one or more structural aspects of the structured XML electronic document that fail to conform to rules associated with the document;

~~receiving user input selecting a change of the suggested changes includes receiving user input selecting one or more suggested changes; and~~

applying the correction selected by the input selected change includes applying the correction selected by the input selected changes to the structured XML electronic document, thereby bringing the entire structured XML electronic document into conformance with the rules.

13. (Currently Amended) A computer-implemented method for validating and correcting a ~~markup language~~ an XML electronic document, comprising:

recursively validating a parent element of the markup language document by:

validating attributes of the parent element,

validating a content model of the parent element, and

recursively validating one or more children of the parent element;

identifying a validation error in the XML electronic document, the validation error being a structural aspect of the ~~markup language~~ XML electronic document that fails to conform to one or more rules of an XML document type definition or an XML schema, the rules being associated with the XML electronic document, the validation error being of a particular kind associated with the markup language document, the one or more rules deduced from the structure of the markup language document;

selecting a suggestion template from among multiple suggestion templates according to the particular kind of the validation error, and using the selected suggestion template to suggest to a user suggested corrections that are predefined in the template for the particular kind of validation error, the selected suggesting one or more changes to a user that would correct the identified non-conforming structural aspect, the suggested one or more changes being presented to the user in a predetermined suggestion template corresponding to a specific validation error, the predetermined suggestion template including logic necessary to implement the one or more changes suggested corrections to the document to correct the identified non-conforming structural aspect;

receiving ~~user~~ an input selecting one of the suggested corrections a change of the suggested changes; and

using the logic in the selected suggestion template to apply the correction selected by the input applying the selected change to the XML electronic document.

14. (Cancelled)

15. (Currently Amended) The method of claim 1413, further comprising:
 checking a root element against a DOCTYPE root tag specified in the rules associated
 with the XML document; and
 allowing a user to retag the root element using the DOCTYPE root tag.

16. (Currently Amended) A computer program product tangibly embodied in a
machine-readable medium for correcting a ~~structured~~an XML electronic document, the product
comprising instructions operable to cause one or more data processing apparatus to perform
operations comprising:

 identifying a validation error in the XML electronic document, the validation error being
 a structural aspect of the ~~structured~~ XML electronic document that fails to conform to rules of a
 markup language format ~~an XML document type definition or an XML schema~~, the rules
 including one or more rules deduced from the structure of the structured electronic document and
 being associated with the ~~structured~~ XML electronic document, the validation error being of a
 particular kind;

 selecting a suggestion template from among multiple suggestion templates according to
 the particular kind of the validation error, and using the selected suggestion template to suggest
 to a user suggested corrections that are predefined in the template for the particular kind of
 validation error, the selected suggesting one or more changes to a user which would correct the
 identified non-conforming structural aspect, the suggested one or more changes being presented
 to the user in a predetermined suggestion template corresponding to a specific validation error,
 the predetermined suggestion template including logic necessary to implement the suggested
 corrections one or more changes to the document to correct the identified non-conforming
 structural aspect;

 receiving ~~user~~ an input selecting one of the suggested corrections a change of the
 suggested changes; and

 using the logic in the selected suggestion template to apply the correction selected by the
 input applying the selected change to the ~~structured~~ XML electronic document.

17. (Currently Amended) The computer program product of claim 16, wherein:
identifying a structural aspect of the structured XML electronic document includes
identifying a missing, extraneous, misplaced, or mismatched structural aspect of the structured XML electronic document.
18. (Currently Amended) The computer program product of claim 16, wherein:
the rules include one or more rules stored separately from and referred to in the structured XML electronic document.
19. (Currently Amended) The computer program product of claim 16, wherein:
the rules include one or more rules stored in the structured XML electronic document.
- 20-22. (Cancelled)
23. (Currently Amended) The computer program product of claim 2416, wherein:
the rules include one or more rules defined in an XML DTD.
24. (Previously Presented) The computer program product of claim 16, wherein:
suggesting changes to the user includes suggesting a plurality of changes to the user in an order determined by predefined user preferences, the predefined user preferences including ranking particular changes higher than other changes.
25. (Cancelled)
26. (Original) The computer program product of claim 16, wherein suggesting one or more changes to a user comprises:
requesting information from a user about the identified structural aspect; and
based on input received in response to the request, suggesting to the user one or more changes that would correct the identified structural aspect.

27. (Currently Amended) The computer program product of claim 16, wherein:

identifying a structural aspect of the structured XML electronic document that fails to conform to rules associated with the structured XML electronic document includes identifying one or more structural aspects of the structured XML electronic document that fail to conform to rules associated with the document;

~~receiving user input selecting a change of the suggested changes includes receiving user input selecting one or more suggested changes; and~~

applying the correction selected by the input selected change includes applying the correction selected by the input selected changes to the structured XML electronic document, thereby bringing the entire structured XML electronic document into conformance with the rules.

28. (Currently Amended) A computer program product tangibly embodied in a machine-readable medium for validating and correcting ~~a markup language~~ an XML electronic document, the product comprising instructions operable to cause one or more data processing apparatus to perform operations comprising:

recursively validating a parent element of the markup language document by:

validating attributes of the parent element,

validating a content model of the parent element, and

recursively validating one or more children of the parent element;

identifying a validation error in the XML electronic document, the validation error being a structural aspect of the markup language XML electronic document that fails to conform to one or more rules of an XML document type definition or an XML schema, the rules being associated with the XML electronic document, the validation error being of a particular kind associated with the markup language document, the one or more rules deduced from the structure of the markup language document;

selecting a suggestion template from among multiple suggestion templates according to the particular kind of the validation error, and using the selected suggestion template to suggest to a user suggested corrections that are predefined in the template for the particular kind of validation error, the selected suggesting one or more changes to a user that would correct the identified non-conforming structural aspect, the suggested one or more changes being presented to the user in a predetermined suggestion template corresponding to a specific validation error, the predetermined suggestion template including logic necessary to implement the one or more changes suggested corrections to the document to correct the identified non-conforming structural aspect;

receiving user input selecting one of the suggested corrections a change of the suggested changes; and

using the logic in the selected suggestion template to apply the correction selected by the input applying the selected change to the XML electronic document.

29. (Cancelled)

30. (Currently Amended) The computer program product of claim 2928, further comprising instructions operable to cause one or more data processing apparatus to perform operations comprising:

 checking a root element against a DOCTYPE root tag specified in the rules associated with the XML document; and

 allowing a user to retag the root element using the DOCTYPE root tag.

31-32. (Cancelled)

33. (Currently Amended) A system, comprising:

a device hosting an electronic document application; and

a processor configured to perform operations comprising:

means for identifying a validation error in the XML electronic document, the validation error being a structural aspect of the structured XML electronic document that fails to conform to rules of an XML document type definition or an XML schema-a markup language format, the rules including one or more rules deduced from the structure of the structured electronic document and being associated with the structured XML electronic document, the validation error being of a particular kind;

selecting a suggestion template from among multiple suggestion templates according to the particular kind of the validation error, and using the selected suggestion template to suggest to a user suggested corrections that are predefined in the template for the particular kind of validation error, the selected means for suggesting one or more changes to a user which would correct the identified non-conforming structural aspect, the suggested one or more changes being presented to the user in a predetermined suggestion template corresponding to a specific validation error, the predetermined suggestion template including logic necessary to implement the suggested corrections one or more changes to the document to correct the identified non-conforming structural aspect;

means for receiving user an input selecting one of the suggested corrections-a change of the suggested changes; and

using the logic in the selected suggestion template to apply the correction selected by the input means for applying the selected change to the structured XML electronic document.

34. (Currently Amended) The system of claim 33, wherein:

identifying a structural aspect of the structured XML electronic document includes identifying a missing, extraneous, misplaced, or mismatched structural aspect of the structured XML electronic document.

35. (Currently Amended) The system of claim 33, wherein:
the rules include one or more rules stored separately from and referred to in the ~~structured~~
XML electronic document.
36. (Currently Amended) The system of claim 33, wherein:
the rules include one or more rules stored in the ~~structured~~ XML electronic document.
37. (Previously Presented) The system of claim 33, wherein:
suggesting changes to the user includes suggesting a plurality of changes to the user in an
order determined by predefined user preferences, the predefined user preferences including
ranking particular changes higher than other changes.
38. (Previously Presented) The method of claim 1, wherein:
the template is implemented as a list of commands.
39. (Cancelled)
40. (Previously Presented) The method of claim 13, wherein:
the template is implemented as a list of commands.
41. (Previously Presented) The computer program product of claim 16, wherein:
the template is implemented as a list of commands.
42. (Cancelled)
43. (Previously Presented) The computer program product of claim 28, wherein:
the template is implemented as a list of commands.
44. (Previously Presented) The system of claim 33, wherein:
the template is implemented as a list of commands.